



MEMORANDUM

To: Mr. Brandon Fournier
City of Southgate
14400 Dix-Toledo
Southgate, Michigan 48195

From: Mark J. Quimby

Date: March 13, 2014

Subject: Executive Summary of Phase II ESA Results
Former American Sunroof Company (ASC) Property
18640 Walnut Street, Southgate, Michigan
SME Project No.: 066220.00.02A.005

SME's project team prepared this executive summary to present the results of our Phase II Environmental Site Assessment completed for the above referenced property (the Property). The results of our Phase II ESA demonstrated the Property meets the criteria of a "facility" as defined by Part 201 of the Natural Resources and Environmental Protection Act of 1994, as amended (Part 201). The Phase II ESA was funded by the U.S. Environmental Protection Agency (USEPA) Brownfields Assessment Grant awarded to the Downriver Community Conference Brownfield Consortium (DCCBC), Cooperative Agreement Number BF-00E01038-0.

The Property consists of one 10.64 acre parcel of land developed with a commercial building. The area surrounding the Property to the west, north, and east consisted of a business park complex, which was historically constructed for operations associated with the American Sunroof Company. The remainder of the Property was developed with paved parking and landscaped areas. Figure 1 is a USGS Topographic map showing the general area of the Property. Figure 2 is a Property Features Diagram showing the general property features. The purpose of the Phase II ESA was to evaluate for the presence of environmental impact associated with unreported and/or undetected releases associated with the following Recognized Environmental Conditions (RECs) identified in our April 22, 2013 Phase I ESA report and our January 24, 2014 Phase I ESA Update report:

- The presence of two 2,000-gallon gasoline UST systems. One of the UST systems, located within the northeast addition the Property building, was reportedly removed from the ground in 1989. The other UST system, located north of the technical center portion of the building, is currently present at the Property.
- The historical business operations at the Property including the use of paints and solvents, and generation and storage of waste oil and paint/solvent waste products.
- The two, pad-mounted electrical transformers located north of the Property building.
- The one manhole feature located within the central portion of the technical center area of the building, likely associated with a drain cleanout, or an oil/water separator.



- The undetected migration of hazardous substances and/or petroleum products onto the Property from the northeast and east sites (13400 and 13500 Reeck Road) adjoining the Property.

We conducted the subsurface assessment of the Property on November 27, 2013 and advanced a total of 12 soil borings. SB1, SB2, SB5, SB8, SB11, and SB12 were advanced outside the former ASC building; and SB3, SB4, SB6, SB7, and SB10 were advanced outside the building. The soil boring locations are shown on Figure 3. We also collected a groundwater sample from the observation well (OW1) installed within the basin of the existing UST system and a concrete core sample from the stained concrete pad at location SB8 adjacent to a transformer. The soil profiles encountered during advancement of the borings are presented on the attached Soil Boring Logs. The general soil profile we encountered consisted of sand or clayey sand fill to depths as deep as four feet below the ground surface (bgs) over native sandy clay the explored depths with the exception of the former UST basins and around the oil water separator where deeper sand fill was encountered. We noted hydrocarbon odors and black staining at SB4 near the former UST dispenser location within the building footprint and at SB10 adjacent to the oil-water separator within the building. We also noted hydrocarbon odors at SB8 adjacent to a transformer outside the building. We observed no evidence of environmental impact at the other sampling locations, including the water sample from OW1.

The results from chemical analyses of soil and groundwater samples are summarized in Table 1 (soil), Table 2 (groundwater). We compared the sample results to Part 201 Generic Residential Cleanup Criteria and Screening Levels, dated December 30, 2013 (residential criteria) to determine if the Property qualified as a “facility” as defined in Part 201. Figure 3 is a scaled Criteria Exceedance Diagram that includes sample locations, sample depths, and detected contaminant concentrations exceeding one or more residential criteria. The following constituents were measured in soil samples at concentrations above drinking water protection criteria, groundwater surface water interface protection criteria and/or direct contact criteria:

- VOCs:
 - Benzene, ethylbenzene, 1,2,3- trimethylbenzene, 1,2,4- trimethylbenzene, xylenes: SB4 (1'-2')
 - Naphthalene: SB4 (1'-2'), SB4 (1'-2'), SB8 (1'-2')
- SVOCs:
 - 2-methylnaphthalene: SB4 (1'-2')
- Various metals
 - Arsenic: SB6 (1'-2')
 - Barium: SB5 (0.5'-1.25'), SB6 (1'-2')
 - Cadmium: SB6 (1'-2'), SB10 (6'-7')
 - Copper: SB6 (1'-2')
 - Lead: SB4 (1'-2'), SB6 (1'-2'), SB10 (6'-7')

- Selenium: SB5 (0.5'-1.25'), SB6 (1'-2')
- Zinc: SB6 (1'-2')

Lead was also measured at a concentration exceeding the residential drinking water criterion in the groundwater sample collected from SB10.

Please contact us at 734-454-9900 if you have any questions about this executive summary.

Figures:

Figure 1 – Property Location Diagram
Figure 2 – Property Features Diagram
Figure 3 – Sample Location Diagram
Figure 4 – Criteria Exceedance Diagram

Tables:

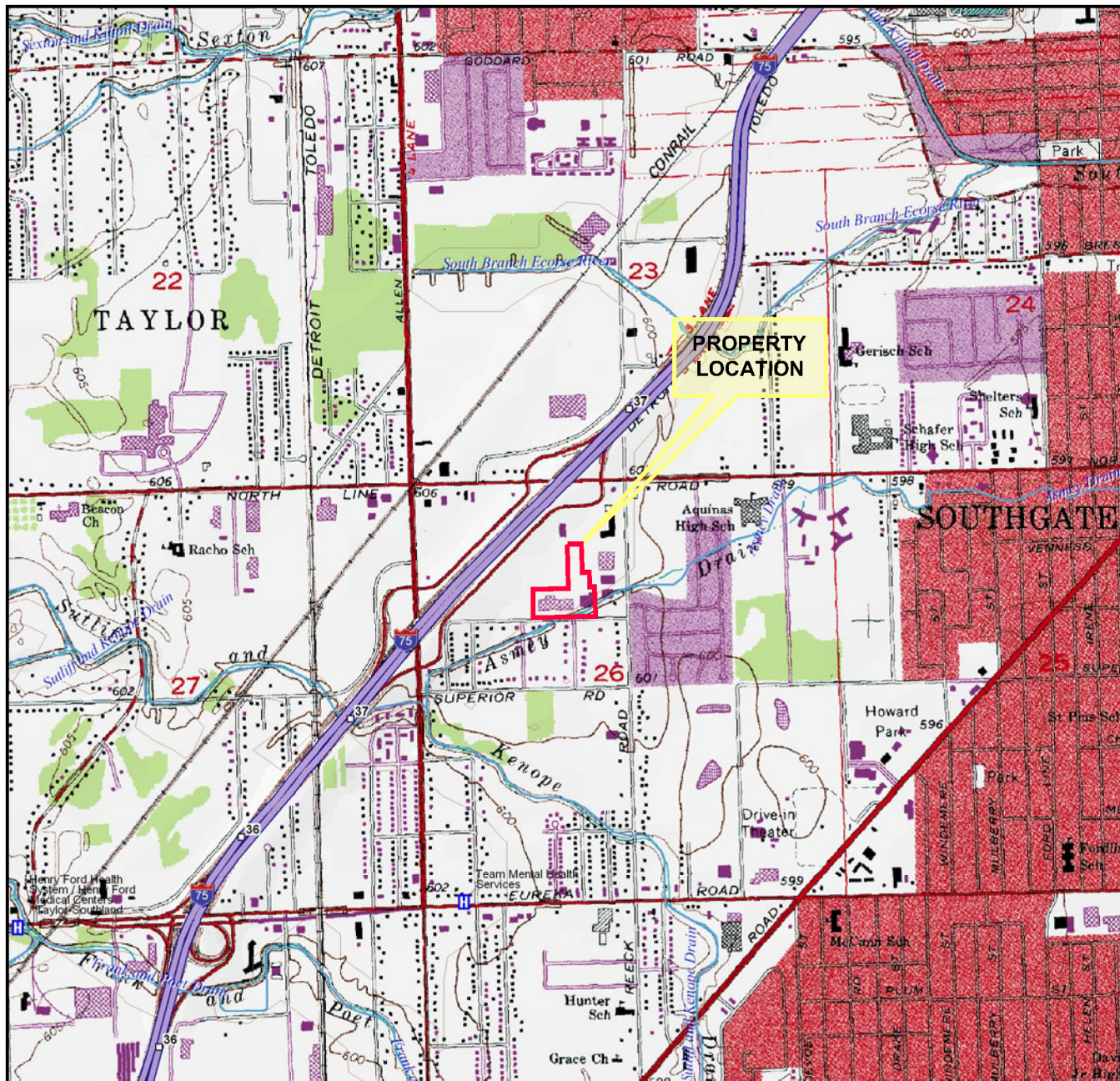
Table 1 – Soil Analytical Results
Table 2 – Groundwater Analytical Results

Attachment:

Soil Boring Logs

Figures

- Figure 1 – Property Location Diagram
- Figure 2 – Property Features Diagram
- Figure 3 – Sample Location Diagram
- Figure 4 – Criteria Exceedance Diagram

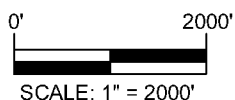


Base map obtained from ©DeLorme Topo North America™ 10.

LEGEND



APPROXIMATE
PROPERTY LOCATION



USGS QUADRANGLE(S) REFERENCED
WYANDOTTE (MI) TOPO QUAD - 1981



Apr 10, 2013 - 3:54pm - MANDRILA

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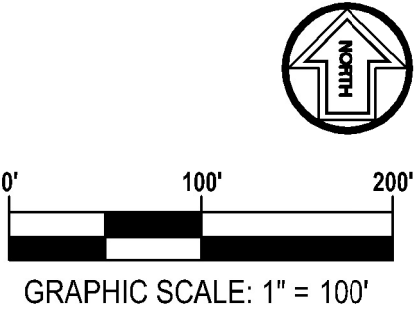


Indiana
Michigan
Ohio

Date	03-06-13
Drawn By	GM
Scale	1" = 2000'
Project	066220.00.001.002

**USGS 7.5 MINUTE TOPOGRAPHIC MAP
FORMER AMERICAN SUNROOF COMPANY (ASC)
18640 WALNUT STREET
SOUTHGATE, MICHIGAN**

Figure No. 1



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- PAINT BOOTH

NOTE:
DRAWING INFORMATION TAKEN
FROM GOOGLE EARTH PRO AND
PROPERTY RECONNAISSANCE.

Jan 27, 2014 - 1:01pm - MANDRILA
\\Sme\file\work in progress\066220.00\CAD\066220.00.02A.005\DWG\rev0\066220.00.02A.005-03.dwg


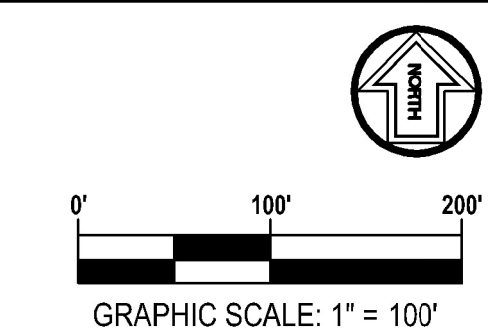
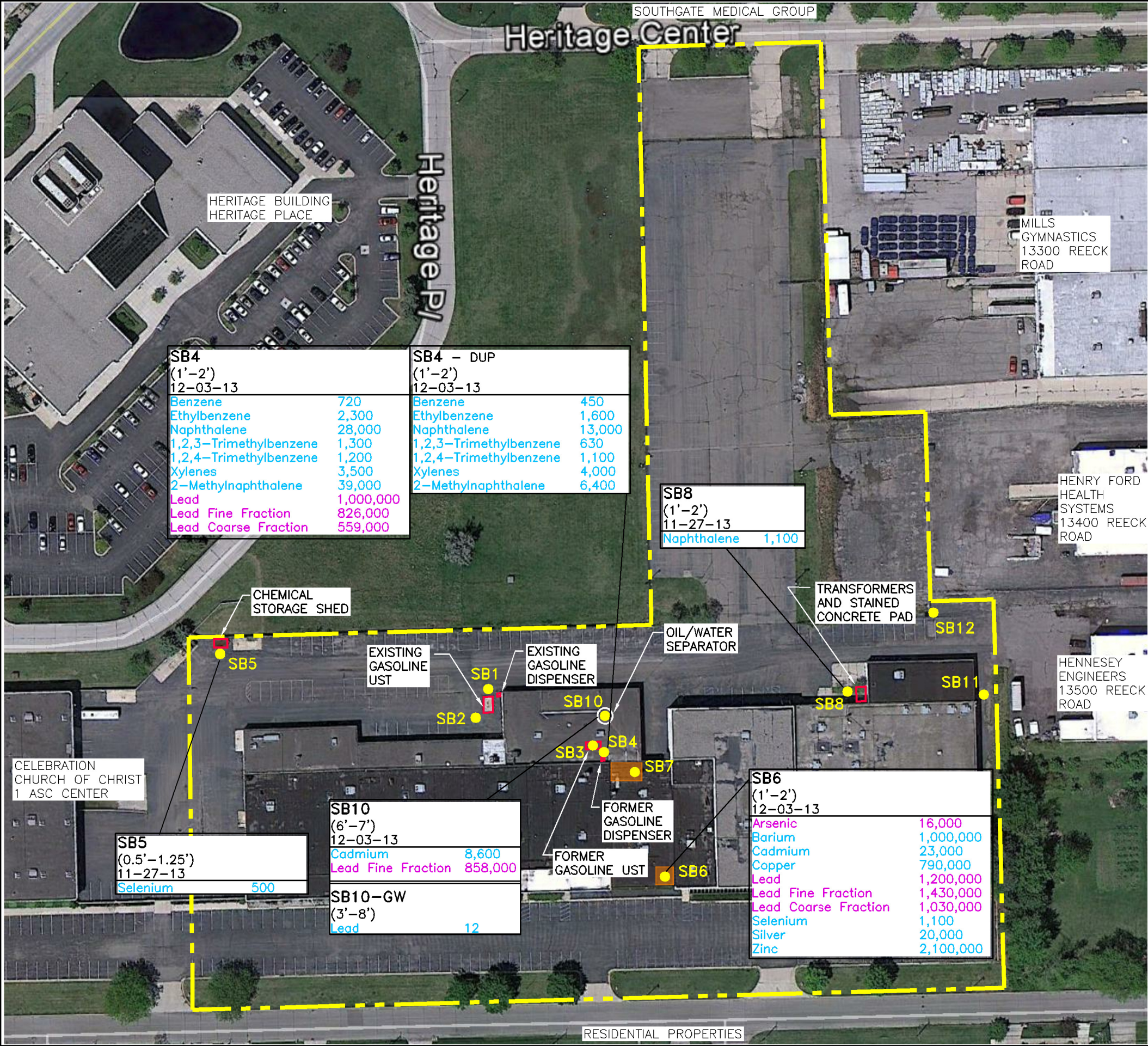
 www.sme-usa.com © 2013		<table><tr><td>Date</td><td>01-14-14</td></tr><tr><td>Drawn By</td><td>GM</td></tr><tr><td>Designed By</td><td>LA</td></tr><tr><td>Scale</td><td>1" = 100'</td></tr><tr><td>Project</td><td>066220.00.02A.005</td></tr></table>		Date	01-14-14	Drawn By	GM	Designed By	LA	Scale	1" = 100'	Project	066220.00.02A.005	<div>PROPERTY FEATURES DIAGRAM</div> <div>FORMER AMERICAN SUNROOF COMPANY (ASC)</div> <div>18640 WALNUT STREET</div> <div>SOUTHGATE, MICHIGAN</div>		<table><tr><td>No.</td><td></td><td>Revision Date</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>	No.		Revision Date																		
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Figure No. 2



LEGEND	
	APPROXIMATE PROPERTY BOUNDARY
	PAINT BOOTH
	SOIL BORING LOCATION
Benzene 450	EXCEEDS ONE OR MORE PART 201 RESIDENTIAL WATER PROTECTION CRITERIA
Arsenic 16,000	EXCEEDS ONE OR MORE PART 201 RESIDENTIAL WATER PROTECTION CRITERIA AND DIRECT CONTACT CRITERIA

- NOTES:
- DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO AND PROPERTY RECONNAISSANCE.
 - CLEANUP CRITERIA EXCEEDANCES ARE BASED UPON MDEQ RESIDENTIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS, DATED DECEMBER 30, 2013.
 - LISTED CONCENTRATIONS ARE IN PARTS PER BILLION (PPB) FOR SOIL, AND MICROGRAMS PER LITER FOR GROUNDWATER (µG/L).

Revision Date

No.

CRITERIA EXCEEDANCE DIAGRAM

FORMER AMERICAN SUNROOF COMPANY (ASC)

18640 WALNUT STREET

SOUTHGATE, MICHIGAN

Date

01-09-15

Drawn By

GM

Designed By

LEA

Scale

1" = 100'

Project

066220.00.02A.005

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Figure No. 4

Tables

Table 1 – Soil Analytical Results

Table 2 – Groundwater Analytical Results

TABLE 1
SOIL ANALYTICAL RESULTS
ASC BUILDING
18640 Walnut Street
Southgate, Michigan
SME Project No. 066220.00.02A.005
Page 1 of 1

Constituent	Chemical Abstract Service Number	Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Sample Identification	SB1	SB1 DUPLICATE	SB1	SB3	SB4	SB4 DUPLICATE	SB5	SB6	SB7	SB8	SB8 Concrete Pad	SB10
(Refer to detailed laboratory report for method reference data)										Depth (ft. below grade)	(1' - 2')	(1' - 2')	(2' - 3')	(3' - 4')	(1' - 2')	(1' - 2')	(0.5' - 1.25')	(1' - 2')	(1' - 2')	(1' - 2')	-	(6' - 7')
										Date Collected	11/27/2013	11/27/2013	11/27/2013	12/3/2013	12/3/2013	12/3/2013	11/27/2013	12/3/2013	12/3/2013	11/27/2013	12/3/2013	12/3/2013
VOCs																						
Benzene	71-43-2	100	4,000	1,600	13,000	34,000	79,000	380,000,000	180,000		<50	<50	<50	<50	720	450	<50	<50	<50	NE	NE	<50
Ethylbenzene	100-41-4	1,500	360	87,000	720,000	1,000,000	2,200,000	10,000,000,000	140,000		<50	<50	<50	<50	2,300	1,600	<50	<50	<50	NE	NE	<50
Naphthalene	91-20-3	35,000	730	250,000	300,000	300,000	300,000	200,000,000	16,000,000		<340	<330	<380	<330	28,000	13,000	<330	<330	<330	1,100	NE	<330
Toluene	108-88-3	16,000	5,400	250,000	2,800,000	5,100,000	12,000,000	27,000,000,000	250,000		<50	<50	<50	<50	1,300	630	<50	<50	<50	NE	NE	<50
1,2,3-Trimethylbenzene	526-73-8	1,800	570	94,000	16,000,000	380,000,000	380,000,000	82,000,000,000	94,000		<100	<100	<100	<100	1,300	630	<100	<100	<100	NE	NE	<100
1,2,4-Trimethylbenzene	95-63-6	2,100	570	110,000	21,000,000	500,000,000	500,000,000	82,000,000,000	110,000		<140	<130	<150	<100	1,200	1,100	<110	<100	<100	NE	NE	<100
1,3,5-Trimethylbenzene	108-67-8	1,800	1,100	94,000	16,000,000	380,000,000	380,000,000	82,000,000,000	94,000		<140	<130	<150	<100	260	310	<110	<100	<100	NE	NE	<100
Xylenes**	1330-20-7	5,600	820	150,000	46,000,000	61,000,000	130,000,000	#####	150,000		<150	<150	<150	<150	3,500	4,000	<150	<150	<150	NE	NE	<150
Other VOCs	CS	CS	CS	CS	CS	CS	CS	CS	CS		<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	NE	NE	<RL
SVOCs																						
2-Methylnaphthalene	91-57-6	57,000	4,200	2,700,000	1,500,000	1,500,000	1,500,000	670,000,000	8,100,000		<330	<330	<330	<330	39,000	6,400	<330	<330	<330	<330	NE	<330
Phenanthrene	85-01-8	56,000	2,100	2,800,000	160,000	160,000	160,000	6,700,000	1,600,000		NE	NE	NE	NE	NE	NE	<330	<330	<330	<330	NE	390
Other SVOCs	129-00-0	480,000	ID	1,000,000,000	650,000,000	650,000,000	650,000,000	6,700,000,000	29,000,000		NE	NE	NE	NE	NE	NE	<RL	<RL	<RL	<RL	NE	<RL
PCBs																						
PCBs	CS	NA	NA	NA	NA	NA	NA	NA	CS		NE	NE	NE	NE	NE	NE	NE	NE	NE	<330	<330	NE
Metals																						
Arsenic	7440-38-2	5,800	5,800	NLV	NLV	NLV	NLV	720,000	7,600		NE	NE	NE	NE	NE	NE	1,000	16,000	1,500	NE	NE	NE
Barium	7440-39-3	1,300,000	440,000*	NLV	NLV	NLV	NLV	330,000,000	37,000,000		NE	NE	NE	NE	NE	NE	120,000	1,000,000	7,600	NE	NE	NE
Cadmium	7440-43-9	6,000	3,600*	NLV	NLV	NLV	NLV	1,700,000	550,000		NE	NE	NE	NE	NE	NE	69	23,000	55	NE	NE	8,600
Chromium, Total	7440-47-3	1,000,000,000	3,000,000,000	NLV	NLV	NLV	NLV	330,000,000	790,000,000		NE	NE	NE	NE	NE	NE	6,900	1,300,000	2,900	NE	NE	550,000
Chromium, VI	18540-29-9	30,000	3,300	NLV	NLV	NLV	NLV	250,000	2,500,000		NE	NE	NE	NE	NE	NE	<2,200	NE	NE	NE	NE	NE
Copper	7440-50-8	5,800,000	75,000*	NLV	NLV	NLV	NLV	130,000,000	20,000,000		NE	NE	NE	NE	NE	NE	2,500	790,000	2,800	NE	NE	NE
Lead	7439-92-1	700,000	2,800,000*	NLV	NLV	NLV	NLV	100,000,000	400,000		18,000	75,000	52,000	1,600	1,000,000	250,000	2,500	1,200,000	3,000	NE	NE	390,000
Lead - fine fraction	7439-92-1	700,000	2,800,000*	NA	NA	NA	NA	100,000,000	400,000		NE	NE	NE	NE	826,000	389,000	NE	1,430,000	NE	NE	NE	858,000
Lead - coarse fraction	7439-92-1	700,000	2,800,000*	NA	NA	NA	NA	NA	400,000		NE	NE	NE	NE	559,000	173,000	NE	1,030,000	NE	NE	NE	242,000
Mercury, Total	7439-97-6	1,700	130	48,000	52,000	52,000	52,000	20,000,000	160,000		NE	NE	NE	NE	NE	NE	<50	<50	<50	NE	NE	NE
Selenium	7782-49-2	4,000	410	NLV	NLV	NLV	NLV	130,000,000	2,600,000		NE	NE	NE	NE	NE	NE	500	1,100	<200	NE	NE	NE
Silver	7440-22-4	4,500	1,000	NLV	NLV	NLV	NLV	6,700,000	2,500,000		NE	NE	NE	NE	NE	NE	<100	20,000	<100	NE	NE	NE
Zinc	7440-66-6	2,400,000	170,000*	NLV	NLV	NLV	NLV	ID	170,000,000		NE	NE	NE	NE	NE	NE	30,000	2,100,000	9,100	NE	NE	NE
Pesticides, Chlorinated																						
Hexachlorobutadiene (C-46)	87-68-3	26,000	91	130,000	130,000	130,000	130,000	140,000,000	100,000		NE	NE	NE	NE	NE	NE	<330	<330	<330	NE	NE	NE
Glycols																						
Ethylene glycol	107-21-1	300,000	3,800,000	NLV	NLV	NLV	NLV	67,000,000,000	110,000,000		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	<10,000
Propylene glycol	57-55-6	3,000,000	5,800,000	NLV	NLV	NLV	NLV	#####	110,000,000		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	<10,000
Triethylene glycol	112-27-6	110,000	NA	NLV	NLV	NLV	NLV	ID	110,000		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	<50,000

Notes:

- Concentrations reported in micrograms per kilogram (ug/kg).
- Criteria taken from RRD Operational Memorandum No. 1, Table 2. Soil: Residential Part 201 Generic Cleanup Criteria and Screening levels, dated 12/30/2013.
- Detected results and the corresponding exceeded criteria are shown in BOLD. Results exceeding one or more criteria are shaded, as are the criteria.
- VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds; PCBs = Polychlorinated Biphenyls; Other VOCs and SVOCs = Refer to the analytical report for the full list of VOC and SVOC analytes.
- CS - Criterion is specific to individual constituent; <RL - Analytical result was below laboratory reporting limit(s); ID - Insufficient data to develop criteria.
- NA - Not applicable or not analyzed; NE - Not evaluated.
- * = GSI Protection was calculated for the indicated metals using the MDEQ spreadsheet for calculating GSI. A default water hardness value of 150 mg/kg as CaCO3 was used to calculate GSI. Results are presented for surface water receiving bodies not protected as a drinking water source.
- ** = Total xylenes was calculated as the sum of o-xylene and m,p-xylene concentrations.
- Italicized = the respective criterion was below the Statewide Default Background Level (SDBL) and therefore the value defaulted to the SDBL value.
- Results were also compared to and found to be below Soil Volatilization to Indoor Air Criteria, Soil Saturation Concentration Screening Levels, Infinite Source Volatile Soil Inhalation Criteria (VSIC), Finite VSIC for 2 and 5 Meter Source Thickness, and Particulate Soil Inhalation Criteria.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
ASC BUILDING
18640 Walnut Street
Southgate, Michigan
SME Project No. 066220.00.02A.005
Page 1 of 1

Constituent	Chemical Abstract Service Number	Residential & Commercial Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	Sample Identification	SB1 GW	SB1 GW DUPLICATE	SB3 GW	SB8 GW	SB10 GW	OW 1	TRIP BLANK
(Refer to detailed laboratory report for method reference data)					Screen Interval (ft. below grade)	3-8	3-8	3-8	0.5-5.5	3-8	**	-
					Date Collected	11/27/2013	11/27/2013	12/3/2013	11/27/2013	12/3/2013	12/3/2013	11/27/2013
VOCs												
Naphthalene	91-20-3	520	11	31,000		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Other VOCs	CS	CS	CS	CS		<RL	<RL	<RL	NE	<RL	<RL	<RL
PAHs												
2-Methylnaphthalene	91-57-6	260	19	25,000		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Other PAHs	85-01-8	CS	CS	CS		NE	NE	NE	<RL	<RL	NE	<RL
Metals												
Cadmium	7440-43-9	5.0	3.0*	NLV		NE	NE	NE	NE	<1.0	NE	NE
Chromium, Total	7440-47-3	100	100*	NLV		NE	NE	NE	NE	<10	NE	NE
Lead	7439-92-1	4.0	16*	NLV		<3.0	<3.0	<3.0	NE	12	<3.0	NE
Glycols												
Ethylene glycol	107-21-1	15,000	190,000	NLV		NE	NE	NE	NE	<10,000	NE	NE
Propylene glycol	57-55-6	150,000	290,000	NLV		NE	NE	NE	NE	<10,000	NE	NE
Triethylene glycol	112-27-6	4,300	NA	NLV		NE	NE	NE	NE	<4,000	NE	NE

- Notes:
- Concentrations reported in micrograms per liter (ug/L).
 - Criteria taken from RRD Operational Memorandum No. 1, Table 1. Groundwater: Residential and Non-Residential Part 201 Generic Cleanup Criteria and Screening levels, dated September 28, 2012
 - Detected results and the corresponding exceeded criteria are shown in BOLD. Results exceeding one or more criteria are shaded, as are the criteria.
 - VOCs = Volatile Organic Compounds; SVOCs = Semi-Volatile Organic Compounds; PAHs = Polynuclear Aromatic Hydrocarbons; Other VOCs = Refer to the analytical report for the full list of VOC and PAH analytes.
 - CS - Criterion is specific to individual constituent; <RL - Analytical result was below laboratory reporting limit(s); ID - Insufficient data to develop criteria.
 - NA - Not applicable or not analyzed; NE - Not evaluated; NLV - Not likely to volatilize.
 - * = GSI Protection was calculated for the indicated metals using the MDEQ spreadsheet for calculating GSI. A default water hardness value of 150 mg/kg as CaCO3 was used to calculate GSI. Results are presented for surface water receiving bodies not protected as a drinking water source.
 - **=Groundwater sample was collected from a previously installed well.
 - Results were also compared to and found to be below Water Solubility, Flammability and Explosivity Screening Levels, and Acute Inhalation Screening Levels.

Attachment

Soil Boring Logs



soil and materials engineers, inc.
michigan, ohio and indiana

BORING SB 1

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 11/27/13

COMPLETED: 11/27/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	TEMPORARY WELL SCREEN	REMARKS
0		SURFACE ELEVATION: Not Surveyed						
0.2		Asphalt Concrete						
1.0		FILL- Fine to Medium CLAYEY SAND- Trace Gravel- Brown- Moist (SC)						
		Fine to Medium SAND- Trace Gravel and Silt- Dark Brown- Moist to Wet (SP)	LS1	28	<1			Black staining and slight sheen from 1 - 4 feet below ground surface.
4.0					<1			A groundwater sample was collected from a temporary monitoring well, the well screen was set between 3 feet and 8 feet below ground surface.
5		Sandy CLAY- Trace Gravel- Brown (CL)	LS2	40	<1			
8.0					<1			
END OF BORING AT 8.0 FEET.								
10								
15								
20								
25								

GROUNDWATER & BACKFILL INFORMATION

▽ DURING BORING: DEPTH (FT) 3.0

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.
2. No odors were noted.



soil and materials engineers, inc.
michigan, ohio and indiana

BORING SB 2

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 11/27/13

COMPLETED: 11/27/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	REMARKS
0	XXXX	SURFACE ELEVATION: Not Surveyed					
0.2		Asphalt Concrete					
0.4		FILL- Fine to Medium SAND- Trace Gravel and Silt- Dark Brown- Moist (SP)			<1		
3.0		Fine to Medium SAND- Trace Gravel and Silt- Brown- Moist (SP)	LS1	34	<1		
5			LS2	43	<1		
10			LS3	43	<1		
15		SANDY CLAY- Trace Gravel- Brown- Gray from 16 to 20 feet (CL)	LS4	43	<1		
20			LS5	42	<1		
20.0		END OF BORING AT 20.0 FEET.					
25							

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.
2. No odors noted and no staining was observed.



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BORING SB 3

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 12/3/13

COMPLETED: 12/3/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	TEMPORARY WELL SCREEN	REMARKS
0		SURFACE ELEVATION: Not Surveyed						
0.3		Portland Cement Concrete						
0.7		FILL- Crushed Limestone						
		FILL- Fine SAND- Trace Silt- Brown- Moist (SP)	LS1	37	<1			
4.0					<1			
		Fine SAND- Trace Silt- Light Brown- Wet (SP)	LS2	31	<1			
8.0					<1			

A groundwater sample was collected from a temporary monitoring well, the well screen was set between 3 feet and 8 feet below ground surface.

END OF BORING AT 8.0 FEET.

10
15
20
25

GROUNDWATER & BACKFILL INFORMATION

▽ DURING BORING: DEPTH (FT) 4.0

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.
2. No odors were noted and no staining was observed.



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BORING SB 4

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 12/3/13

COMPLETED: 12/3/13

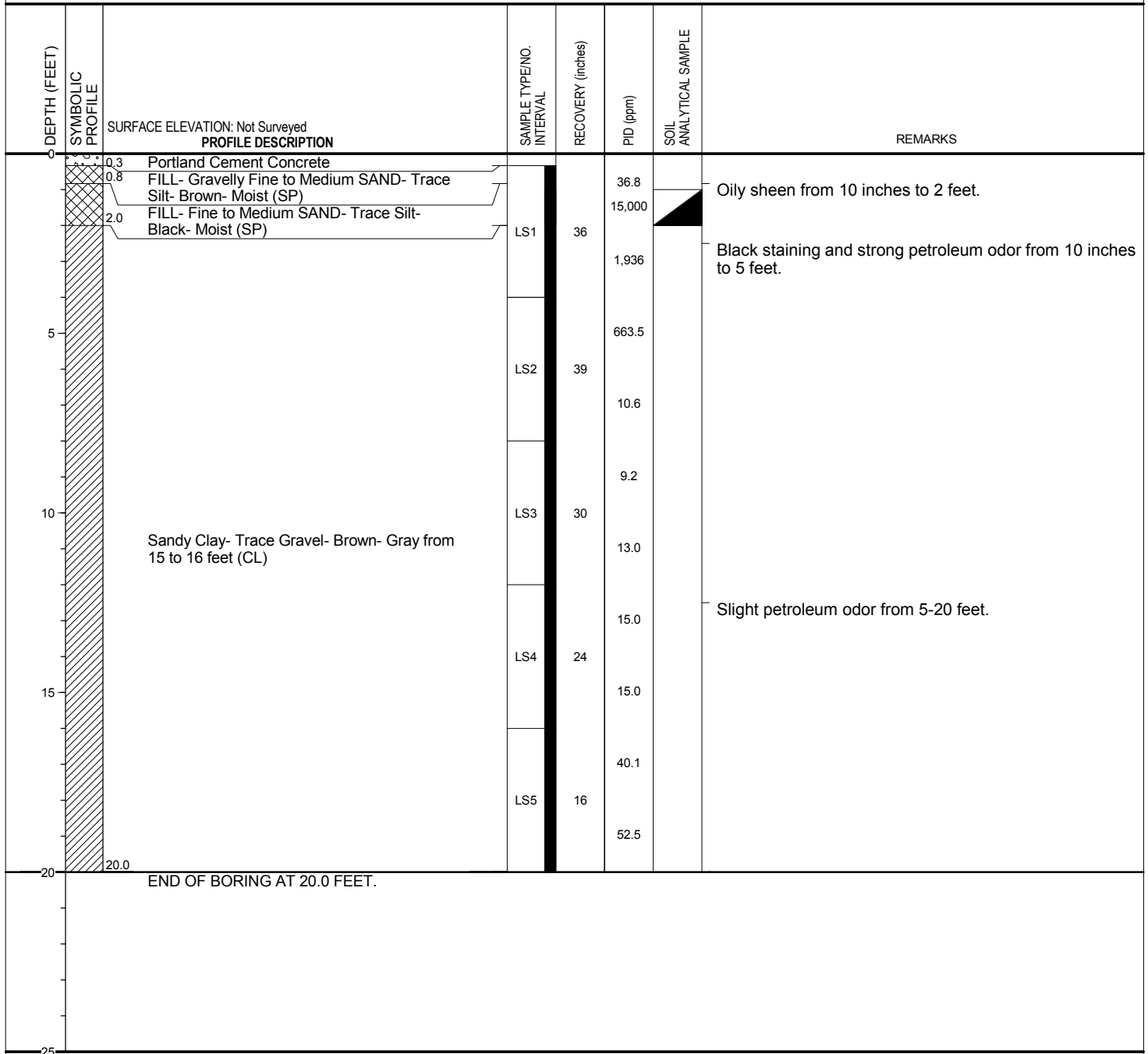
BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:



GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.



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BORING SB 5

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 11/27/13

COMPLETED: 11/27/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	REMARKS
0		SURFACE ELEVATION: Not Surveyed					
0.4		Asphalt Concrete					
1.3		FILL- Crushed Limestone with Fine to Medium Sand- Brown- Moist			<1		Slight hydrocarbon odor from 5 inches to 1.25 feet.
		SANDY CLAY- Trace Gravel- Gray (CL)	LS1	30	<1		
4.0		END OF BORING AT 4.0 FEET.					
5							
10							
15							
20							
25							

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.
2. No odors were noted and no staining was observed.



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BORING SB 6

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 12/3/13

COMPLETED: 12/3/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	REMARKS
0		SURFACE ELEVATION: Not Surveyed					
0.5		Portland Cement Concrete					
0.7		FILL- Fine to Medium SAND- Trace Silt- Brown- Moist (SP)			1.9		
1.0		FILL- AGGREGATE BASE					
		Fine to Medium SAND- Trace to Some Clay- Trace Silt- Dark Brown- Moist (SP/CL)	LS1	30	1.9		
3.0							
		SANDY CLAY- Gray (CL)			2.5		
4.0		END OF BORING AT 4.0 FEET.					
5							
10							
15							
20							
25							

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.
2. No odors were noted and no staining was observed.



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BORING SB 7

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 12/3/13

COMPLETED: 12/3/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	REMARKS
0		SURFACE ELEVATION: Not Surveyed					
0.3		Portland Cement Concrete					
4.0		FILL - Fine to Medium SAND- Trace Silt- Brown- Moist (SP)	LS1	23	1.8 1.2		
5		END OF BORING AT 4.0 FEET.					
10							
15							
20							
25							

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.
2. No odors were noted and no staining was observed.



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BORING SB 8

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 11/27/13

COMPLETED: 11/27/13

BORING METHOD: Hand Auger

OPERATOR: BJM

RIG NO.:

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	TEMPORARY WELL SCREEN	REMARKS
0		SURFACE ELEVATION: Not Surveyed						
0.3		Portland Cement Concrete						
0.8		FILL- TOPSOIL- Fine to Medium Clayey SAND- Trace Silt and Gravel- Brown- Moist (SC)			<1			A groundwater sample was collected from a temporary monitoring well, the well screen was set 0 - 2.5 feet below ground surface. Oily and strong hydrocarbon odor from 1-4 feet.
		SANDY CLAY- Trace Gravel- Gray (CL)	LS1	40	<1			
4.0		END OF BORING AT 4.0 FEET.						
5								
10								
15								
20								
25								

GROUNDWATER & BACKFILL INFORMATION

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.

DEPTH (FT)
DURING BORING: 1.0

BACKFILL METHOD: Soil Cuttings



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BORING SB10

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 12/3/13

COMPLETED: 12/3/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	TEMPORARY WELL SCREEN	REMARKS
0		SURFACE ELEVATION: Not Surveyed						
0.3		Portland Cement Concrete						
0.8		FILL- Crushed Limestone			1.4			
1.8		FILL- Fine to Medium SAND- Trace Silt, Clay, and Gravel- Dark Brown- Moist (SP)		1.0				
2.5		FILL- Crushed Limestone	LS1	36	<1			
5		FILL- Fine to Medium CLAYEY SAND- Trace Gravel- Dark Brown- Moist to Wet (SC)	LS2	35	<1			A groundwater sample was collected from a temporary monitoring well, the well screen was set between 3 feet and 8 feet below ground surface. Black staining and hydrocarbon odor from 4-7.75 feet.
7.8					<1			
8.0		SANDY CLAY- Brown (CL)						
END OF BORING AT 8.0 FEET.								
10								
15								
20								
25								

GROUNDWATER & BACKFILL INFORMATION

DEPTH (FT)
DURING BORING: 3.5

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.



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BORING SB11

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 11/27/13

COMPLETED: 11/27/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	REMARKS
0		SURFACE ELEVATION: Not Surveyed					
0.4		Asphalt Concrete					
1.5		FILL- Fine to Medium CLAYEY SAND- Trace Silt and Gravel- Brown- Moist (SC)			<1		
5			LS1	40	<1		
			LS2	43	<1		
10			LS3	43	<1		
		SANDY CLAY- Brown- Gray from 17 to 24 feet (CL)	LS4	42	<1		
15			LS5	43	<1		
20			LS6	41	<1		
24.0		END OF BORING AT 24.0 FEET.					

GROUNDWATER & BACKFILL INFORMATION	NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual. 2. No odors were noted and no staining was observed.
GROUNDWATER WAS NOT ENCOUNTERED	
BACKFILL METHOD: Soil Cuttings	



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BORING SB12

PAGE 1 OF 1

PROJECT NAME: Former American Sunroof Company

PROJECT NUMBER: 066220.00.02A.005

CLIENT:

PROJECT LOCATION: 18640 Walnut Street, Southgate, Michigan

DATE STARTED: 11/27/13

COMPLETED: 11/27/13

BORING METHOD: Direct Push

OPERATOR: BJM

RIG NO.: ATV

LOGGED BY: LEA

CHECKED BY:

DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE	REMARKS
0		SURFACE ELEVATION: Not Surveyed					
0.4		Asphalt Concrete					
1.0		FILL- Fine to Medium CLAYEY SAND- Trace Silt and Gravel- Brown- Moist (SC)			<1		
			LS1	33	<1		
5			LS2	43	<1		
					<1		
10		SANDY CLAY- Trace Gravel- Gray from 1-4 Feet, Brown from 4-20 Feet (CL)	LS3	42	<1		
					<1		
15			LS4	40	<1		
					<1		
20			LS5	41	<1		
					<1		
20.0		END OF BORING AT 20.0 FEET.					
25							

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Soil Cuttings

NOTES: 1. The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.
2. No odors were noted and no staining was observed.